HON. JAMES L. ROBART

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON

CENTER FOR BIOLOGICAL DIVERSITY Plaintiff, v. ENVIRONMENTAL PROTECTION AGENCY; GINA McCARTHY, ADMINISTRATOR; DENNIS McLERRAN, REGION 10 ADMINISTRATOR, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Defendants.	Case No: 13-cv-1866 JLR **UNITED STATES' CROSS-MOTION FOR SUMMARY JUDGMENT AND COMBINED MEMORANDUM IN SUPPORT OF CROSS-MOTION FOR SUMMARY JUDGMENT AND IN OPPOSITION TO PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT** **NOTE ON MOTION CALENDAR: November 7, 2014** **ORAL ARGUMENT REQUESTED**

Defendants, the United States Environmental Protection Agency, Gina McCarthy, Administrator, Dennis McLerran, Region 10 Administrator, United States Environmental Protection Agency (collectively, "EPA") oppose the motion for summary judgment filed by Plaintiff, Center for Biological Diversity ("Plaintiff" or "CBD") [ECF Doc. 33] and cross-move for summary judgment on all issues.

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INTRODUCTION

Ocean acidification ("OA") refers to the decrease in pH of the Earth's oceans. OA is primarily caused by increasing concentrations of carbon dioxide – a greenhouse gas – in the atmosphere. The carbon dioxide is absorbed by the oceans, resulting in lower pH levels. OA can also be caused or enhanced by other chemical additions or subtractions from the ocean. While the ultimate consequences of OA are still unknown, there is a risk of ecosystem changes that threaten coral reefs, fisheries, protected species, and other natural resources of value to society.[1]

EPA recognizes that a growing body of research indicates the seriousness of global OA risks and the potential that conditions related to OA may have significant adverse impacts on aquatic life in the coastal waters of Washington and Oregon, and elsewhere. However, the science is complex - and experts agree that more research and analyses are needed to fully understand the sources, causes and impacts of OA in different aquatic environments. More information and data are available now than were available in 2010, the end of the reporting period for the water quality impairment listings submitted to EPA by Washington and Oregon, or in 2012 when EPA made the decisions challenged in this case. Research is continuing through a number of Federal, State, and private programs; thus, even more data are likely to be available when the States conduct and report on their next biennial reviews of impaired waters.

The issue before this Court, however, is the validity of EPA's 2012 decisions on the States' 2010 lists of impaired waters. Those decisions must be reviewed based on the information available at that time, as reflected in the administrative records presented to the Court. EPA evaluated all of the information submitted by CBD to the States and to EPA, and also considered additional information that was not reviewed by the States, and reasonably concluded that the information available was insufficient to support a finding that the coastal and estuarine waters in the States of Washington and Oregon failed to meet the States' respective water quality standards. Because those decisions are fully supported by the administrative records and are entitled to

[1] For more information on OA, *see* Questions and Answers on OA and the CWA 303(d) Program [WA-001133], citing National Research Council of the National Academies, "*Ocean Acidification: A National Strategy to Meet the Challenges of a Changing Ocean*" (2010).

deference, the Court should deny Plaintiff's motion for summary judgment and grant judgment for EPA.

STATUTORY AND REGULATORY BACKGROUND

The Clean Water Act ("CWA") establishes a comprehensive program "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" and to attain "water quality which provides for the protection and propagation of fish, shellfish, and wildlife." 33 U.S.C. § 1251(a), (a)(2). Although EPA generally administers the Act, *see* 33 U.S.C. § 1251(d), the States are principally responsible for implementing much of the statute. *Id.* § 1251(b). ("It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution."). The CWA's statutory scheme "anticipates a partnership between the States and the Federal Government," *Arkansas v. Oklahoma*, 503 U.S. 91, 101 (1992), in which "States remain at the front line in combating pollution," *City of Arcadia v. EPA*, 411 F.3d 1103, 1106 (9th Cir. 2005). The CWA establishes distinct roles for the Federal and State governments in that partnership. *PUD No. 1 of Jefferson Cnty. v. Wash. Dep't of Ecology*, 511 U.S. 700, 704-05 (1994).

I. Water Quality Standards

CWA subsections 303(a) through (c) direct the States, with EPA approval and oversight, to establish water quality standards ("WQS") for water bodies within their boundaries. *See* 33 U.S.C. § 1313(a)-(c). These standards consist principally of: (a) designated beneficial uses for waters, such as water supply, fish propagation, or navigation; (b) water quality criteria, which define the amounts of pollutants, in either numeric or narrative form, that the waters can contain without impairment of their designated beneficial uses; and (c) an antidegradation policy.[2] 33 U.S.C. § 1313(c)(2)(A); 40 C.F.R. §§ 131.6, 131.10-12; s*ee also PUD No. 1 of Jefferson Cnty.*,

[2] An antidegradation policy generally aims to protect against unauthorized degradation of water quality. Like all State WQS, it is subject to EPA review and approval. 40 C.F.R. § 131.12. EPA's antidegradation regulation provides for three "Tiers" of water quality protection. See generally 40 C.F.R. § 131.12; *Am. Wildlands v. Browner*, 260 F.3d 1192, 1194-95 (10th Cir. 2001). Tier 1 sets forth the baseline level of protection applicable to all waters in the State and requires that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 C.F.R. §131.12(a)(1). Tier 2 protections apply to "high quality" waters and Tier 3 waters are outstanding resource waters and receive the most stringent protection. *Id.* at §131.12(a)(2) & (3).

511 U.S. at 704-07 (describing the regime used to establish water quality standards). Upon review, if EPA determines that a State's new or revised water quality standards are inconsistent with the Act, then EPA so notifies the State. 33 U.S.C. § 1313(b), (c)(3)-(4)); 40 C.F.R. § 131.21. If the State does not adopt timely changes, EPA does so. 33 U.S.C. § 1313(c)(3)-(4).

CWA section 304(a) authorizes EPA to publish recommendations for water quality criteria, which provide guidance for States to consider in developing water quality standards for waters within their jurisdiction. 33 U.S.C. § 1313(a). Pursuant to that authority, EPA published recommendations for pH criteria for the protection of marine aquatic life. *See* "Quality Criteria for Water," PB-263 943, p. 337-354 (July 26, 1976):[3]

> For open ocean waters where the depth is substantially greater than the euphotic zone, the pH should not be changed more than 0.2 units from the naturally occurring variation or in any case outside the range of 6.5 to 8.5. For shallow, highly productive coastal and estuarine waters where naturally occurring pH variations approach the lethal limits of some species, changes in pH should be avoided but in any case should not exceed the limits established from fresh water, i.e., 6.5-9.0. As with freshwater criteria, rapid pH fluctuations that are due to waste discharges should be avoided.

Id. at 337.

A. <u>Washington's Water Quality Standards</u>

Washington's water quality standards are codified in Chapter 173-201A of Washington's Administrative Code ("WAC"). Washington has established numeric water quality criteria for marine aquatic life uses as well as protection of shellfish harvesting and wildlife habitat uses. WAC 173-201A-210 (1-4). The marine numeric criteria for pH establishes an acceptable range of pH for waters designated as "extraordinary quality" or "excellent quality" of 7.0 – 8.5, with a human-caused variation within that range of less than 0.2 (for extraordinary quality) or 0.5 (for excellent quality). WAC 173-201A-210(1) at Table 210(1)(f).

Washington has established an overarching narrative designated use provision that requires protection of all aquatic life uses, which includes "all indigenous fish and nonfish aquatic

[3] This is known as the "Red Book." It is available at: http://water.epa.gov/scitech/swguidance/standards/criteria/current/upload/2009_01_13_criteria_redbook.pdf

species." WAC 173-201A-210(1). Aquatic life uses for waters designated as "extraordinary quality" or "excellent quality" are "salmonid and other fish migration, rearing and spawning; clam, oyster and mussel rearing and spawning; crustaceans and other shellfish (crabs, shrimp, crayfish, scallops, etc.) rearing and spawning." *Id*.

Washington has also established a narrative criterion to protect aquatic life designated uses that requires that "deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, [or] cause acute or chronic conditions to the most sensitive biota dependent upon those waters." WAC 173-201A-260(2)(a).

B. Oregon's Water Quality Standards

Oregon's water quality standards are codified in Chapter 340, Div. 41 of Oregon's Administrative Regulations ("OAR"). Oregon has adopted numeric water quality criteria for pH that establishes an acceptable range for pH in marine waters of 7.0-8.5. OAR-340-041-0021. For estuarine and fresh waters there are basin-specific criteria that range from 6.5-9.5, depending on the location. OAR-340-041-0101 through 0350. Oregon also has adopted a narrative water quality criterion for protection of aquatic life designated uses. OAR-340-041-007(10). *See also* OAR 340-041-0011 "waters of the State must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities."

II. CWA Section 303(d) Lists of Impaired Waters

CWA section 303(d) directs States to identify and list the waters within their boundaries for which the CWA's technology-based pollutant control measures are insufficient to achieve applicable water quality standards; these are referred to as "impaired waters." 33 U.S.C. § 1313(d)(1). The State need not identify the source of pollutants causing the impairment, but must identify the pollutant causing the impairment, if known. 40 C.F.R. § 130.7(b)(4). The list of impaired waters ("Section 303(d) List" or "List") must be submitted to EPA for approval. 33 U.S.C. § 1313(d)(2). To implement this requirement, EPA regulations direct each State to submit its Section 303(d) List to EPA biennially. 40 C.F.R. § 130.7 (d).

In developing the List, each State is required to "assemble and evaluate all existing and readily available water quality-related data and information." 40 C.F.R. § 130.7(b)(5). A State submission to EPA must include supporting documentation, including, at a minimum: (i) "A description of the methodology used to develop the list;"[4] (ii) "[a] description of the data and information used to identify waters;" (iii) "[a] rationale for any decision to not use any existing and readily available data and information" for certain categories of waters; and (iv) "[a]ny other reasonable information requested by the [EPA]." *See id.* at § 130.7(b)(6). Upon request by EPA, a State also must demonstrate good cause for not including a water or waters on the 303(d) List. *See id*. at § 130.7(b)(6)(iv).

EPA's 2002 Integrated Water Quality Monitoring and Assessment Report Guidance (November 19, 2001) ("2002 IR Guidance") [WA-001310-335] recommends that States place waters into categories. Under the Guidance, "Category 5" is for waters where the water quality standard is not attained. *Id.* at 7 [WA-001316]. The Category 5 waters constitute the Section 303(d) List. Under the CWA and implementing regulations, EPA only approves or disapproves a State's Section 303(d) List, i.e., Category 5 listings. 40 C.F.R. § 130.7. EPA does not approve or disapprove the States' placement of waters in other categories except to the extent that EPA determines such waters should be placed in Category 5. The 2002 IR Guidance provides that:

> EPA's review and approval of the 303(d) list will be based on a determination that the state's or territory's assessment and listing methodology was used to prepare the list, that the assessment and listing methodology is scientifically sound, that it is consistent with the state's or territory's water quality standards, and that the state or territory reasonably considered all existing and readily available data and information, and listed all waters not attaining water quality standards.

2002 IR Guidance at 10-11 [WA-001319-20].

EPA is directed to approve or disapprove a State's List within 30 days of its submission. 33 U.S.C. § 1313(d)(2). EPA must ensure that the State has satisfied the minimum requirements

[4] Washington and Oregon have developed listing methodologies for their 2010 Lists. Those methodologies address, among other things, the quality of the data used for listing, as well as the predicates for listing waters as impaired for non-attainment of narrative water quality criteria. Washington State "Water Quality Program Policy, WQP Policy 1-11, Chapter 1, 2012 [WA-001361] and Chapter 2, September, 2006. [WA-001641]; "Methodology for Oregon's 2010 Water Quality Report and List of Water Quality Limited Waters," (last updated 5/12/2011) [OR1-00080 and OR1-000122].

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set forth in CWA Section 303(d) and the implementing regulations at 40 C.F.R. § 130.7(d)(2), including whether the State has assessed the water against the applicable water quality standards. If EPA disapproves a State's List for failing to include certain waters, EPA is to identify such impaired waters for the State within 30 days of the disapproval. *Id.*

FACTUAL BACKGROUND

I. Ocean Acidification

Ocean acidification science is complex and still in early stages, especially in regard to coastal waters of the territorial seas and estuarine waters.[5] Many of the published studies and reports addressing OA that EPA reviewed for the 2010 303(d) Lists recognized that the effects of ocean acidification on coastal and estuarine systems needed more study.[6] *See Ctr. for Biological Diversity v. EPA*, 749 F.3d 1079, 1086 (D.C. Cir. 2014) (recognizing the scientific uncertainty and complexity of the issues related to pollutants believed to be the precursors of acid rain, which contributes to ocean acidification). Thus, while more is known today about the causes and effects of OA on coastal and estuarine waters than was understood only a few years ago -- when the States compiled their Section 303(d) Lists and when EPA undertook its review -- the associated underlying science continues to evolve.

II. EPA's Decisions

A. EPA's Approval of Washington's 303(d) List

The State of Washington, through its Department of Ecology ("Ecology") submitted its initial Integrated Report for 2010 to EPA Region 10 on December 28, 2011. [WA-000200]. By

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[5] Waters of a State include the "territorial seas," a belt of the seas measured from the coast and extending seaward three miles. 33 U.S.C. § 1362(7) & (8); *Natural Res. Def. Council v. EPA*, 863 F.2d 1420, 1436 (9th Cir. 1988). In this brief, the term "coastal waters" refers to marine waters of a State in the territorial seas, as opposed to marine waters of the oceans. Estuaries are areas where inland fresh waters (like rivers) meet saline ocean waters.

[6] *See, e.g.*, Wootton, *et al.* (2008) at 18851 (results point to "a need for more detailed investigation of the processes controlling ocean pH in higher latitudes and coastal habitats;" and "results highlight the urgent need for more spatially distributed and temporally intensive studies of ocean pH dynamics and their underlying causal mechanisms and consequences"); Feely, *et al.* (2010) at 20 ("Further study of ocean acidification in estuaries is thus warranted"); Barton, *et al.* (2010) at 707 (noting that a significant shortcoming in understanding the effects of acidification on natural populations was the prediction of how carbonate conditions will vary in coastal and estuarine environments, and that before predictive models could be developed, high resolution monitoring of carbon dioxide chemistry was still needed). [WA-000731 (CD containing all of these documents)].

letter dated January 12, 2012, EPA informed Ecology that the submission was incomplete and that further documentation would be required before EPA could take action. EPA specifically requested Washington to include "any memos to the file, etc. documenting decisions surrounding comments submitted by CBD" [WA-000198]. Washington submitted further documentation on March 20, 2012, and again on June 8, 2012 [WA-000005]. Altogether, Ecology's submissions included the 2010 Section 303(d) List, a response to public comments on the List, the final list methodology, a TMDL priority ranking, and an Integrated Report on the status of Washington's waters [WA-000001]. The List did not identify any coastal or estuarine waters as impaired due to pollutants associated with OA or to conditions attributable to OA.[7]

After careful review and consideration of the information submitted by Washington, and evaluation of additional information that was not available to Washington but was available to EPA (including additional information provided to EPA by CBD), EPA approved Washington's 2010 Section 303(d) List:

> The EPA has also conducted a detailed review of Ecology's justification for not placing Puget Sound or other Washington waters, including Willapa Bay, Gray's Harbor, The Strait of Juan de Fuca, and the Pacific Coast, on the 2010 303(d) list for impairments associated with water quality standards that could be related to ocean acidification, including marine pH, and narrative criteria under aquatic life designated uses, or antidegradation. Based on this review, the EPA has concluded that Ecology has adequately addressed all statutory and regulatory requirements for excluding these waters from Category 5 of the Integrated Report.

Letter dated Dec. 21, 2012 from Opalski to Susewind, approving Washington's Section 303(d) List ("Approval Letter") [WA-000001-2]. *See also* EPA Review of Ecology's Analysis of Ocean Acidification Data and Information ("Approval Letter, Encl. 2") [WA-000011] (same).

[7] Washington did, however, identify Puget Sound in "Category 2" (waters of concern) for potential impacts to fish and shellfish habitat attributable to human activities, including conditions that may be related to ocean acidification. June 8, 2012 letter from Ecology to EPA, Encl. 4 [WA-000153, 154]. Washington concluded that "some credible data created concerns of possible impact to designated uses, but fall short of demonstrating that there is a persistent problem." *Id.* But, because the information did not demonstrate a failure of the Puget Sound to attain the State's water quality standards, a Category 5 listing was not appropriate. *Id.*

B. EPA's Partial Approval/ Partial Disapproval of Oregon's 303(d) List and EPA's Additions to Oregon's 303(d) List

Oregon submitted its Integrated Report (which included its Section 303(d) List) to EPA on May 23, 2011. The Oregon List did not identify any coastal, or estuarine waters as impaired for conditions related to OA. In its Response to Comments on Final Supplement to Oregon's 2010 Integrated Report [OR1-000168-179], Oregon addressed comments submitted by CBD regarding OA, and explained that available data did not demonstrate nonattainment of the numeric water quality standard for pH, and that there was insufficient evidence demonstrating nonattainment of the general beneficial use goal in any one of Oregon's narrative criteria. *Id.* at 7 [OR1-000177]. Oregon explained that the articles submitted by CBD did not contain any usable data that could be used for evaluating water quality. *Id*. at 8 [OR1-000178].

Following careful review and consideration, EPA issued a decision partially approving and partially disapproving Oregon's 303(d) List. *See* Letter dated March 15, 2012 from Michael Bussell to Greg Aldrich [OR2-000337-38]. In the partial disapproval, EPA found that Oregon had not considered readily available data and water-quality related information for water bodies of the State and failed to list waters for a variety of pollutants for which EPA had approved numeric water quality criteria. *Id*. Because of the partial disapproval, CWA § 303(d) and EPA regulations, 40 C.F.R. § 130.7(d)(2), required that EPA identify waters not meeting the State's water quality standards.

On December 14, 2012, EPA issued its decision adding 870 additional water quality limited segments to the Oregon 2010 List. *See* Letter dated December 14, 2012 from Daniel Opalski to Greg Aldrich ("Final Additions to Oregon's 2010 303(d) List") [OR2-000001-9]. EPA did not identify any water quality segments as impaired due to pollutants associated with or conditions attributable to OA. EPA explained that there was no evidence of impairment based on nonattainment of Oregon's water quality standards applicable to ocean acidification. *See id.*, Attachment 3, Response to Comments on the EPA's Additions to Oregon's 2010 CWA 303(d) List at 18-19, 22 [OR2-000271-272, 275]. *See also* EPA Evaluation of Ocean Acidification Information [OR2-000286]: "EPA has determined that, at this time, there is not sufficient evidence demonstrating non-attainment of Oregon's marine pH criteria and/or state-wide

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narrative criteria related to aquatic life designated uses to warrant listing any coastal waters as impaired or threatened related to these WQS."

STANDARD OF REVIEW

This Court reviews EPA's actions under the Administrative Procedure Act's ("APA's") arbitrary and capricious standard. 5 U.S.C. § 706(2)(A); *Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517, 1521 (9th Cir. 1995); *Envtl. Def. Fund, Inc. v. Costle*, 657 F.2d 275, 283 (1981). EPA's approval of Washington's 303(d) List and partial approval of Oregon's 303(d) List must be upheld unless it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). The Ninth Circuit only finds a decision arbitrary or capricious if "the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Dioxin/Organochlorine*, 57 F.3d at 1521 (quoting *Motor Vehicle Mfr. Ass'n v. State Farm Ins.*, 463 U.S. 29, 44 (1983)). Even if the "[agency] made missteps . . . the burden is on [the plaintiff] to demonstrate that the [agency's] ultimate conclusions are unreasonable." *George v. Bay Area Rapid Transit*, 577 F.3d 1005, 1011 (9th Cir. 2009).

"This 'arbitrary and capricious' standard of review is a highly deferential one which presumes the agency's action to be valid." *Envtl. Def. Fund*, 657 F.2d at 283. Under this standard, a court may not substitute its judgment for that of the agency. *Motor Vehicle Mfrs. Ass'n* . 463 U.S. at 43. Instead, the agency's action must be affirmed if the agency has considered the relevant factors and articulated a "rational connection between the facts found and the choice made." *Id*. (citation omitted).

The Court's deference to the agency "is highest when reviewing an agency's technical analyses and judgments involving the evaluation of complex scientific data within the agency's technical expertise." *League of Wilderness Defenders Blue Mountains Biodiversity Project v. Allen*, 615 F.3d 1122, 1130 (9th Cir. 2011). "Agencies have discretion to rely on their own experts' reasonable opinions to resolve a conflict between or among specialists, even if [a

reviewing court] find[s] contrary views more persuasive. *Greater Yellowstone Coal. v.Lewis*, 628 F.3d 1143, 1148 (9th Cir. 2010). "[W]here, as here, a court reviews an agency action involve[ing] primarily issues of fact, and where analysis of the relevant documents requires a high level of technical expertise, we must defer to the informed discretion of the responsible federal agencies." *Vigil v. Leavitt*, 381 F.3d 826, 833 (9th Cir. 2004). The Ninth Circuit has said "we must defer to the agency's finding on these matters unless the record shows that the agency's findings were not supported by substantial evidence—i.e., unless the evidence in the record 'would *compel* a reasonable finder of fact to reach a contrary result.' " *Ursack Inc. v. Sierra Interagency Black Bear Grp.*, 639 F.3d 949, 958 (9th Cir. 2011) (quoting *Gebhart v. SEC*, 595 F.3d 1034, 1043 (9th Cir. 2010)). The "substantial evidence" standard is the most stringent standard that can apply to questions of evidentiary sufficiency for factual determinations. *See Dickinson v. Zurko*, 527 U.S. 150, 164 (1999); *see also Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1134 (10th Cir. 2006); *Ass'n of Data Processing Svc. Orgs. v. Bd. of Governors*, 745 F.2d 677, 683-84 (D.C. Cir. 1984). That standard is more deferential even than the "clearly erroneous" standard for appellate review of trial court findings. *Zurko*, 527 U.S. at 162, 164.

ARGUMENT

I. EPA Reasonably Determined that the Data and Information Readily Available at the Time of the Challenged Decisions Did Not Require that the Coastal and Estuarine Waters in Washington and Oregon Be Listed as Impaired Due to Pollutants Associated With or Conditions Attributable to Ocean Acidification.

CBD argues that ocean acidification has caused violation of the States' narrative water quality standards for protection of aquatic life (CBD Br. at 13-19), the numeric criteria for pH (CBD Br. 19-21), and a non-existent criterion for "aragonite undersaturation" and corrosive seawater conditions (CBD Br. at 21-24). EPA recognizes that ocean acidification has the potential to adversely affect aquatic life in marine waters. But, at the time EPA made the challenged decisions regarding the Washington and Oregon Lists, EPA reasonably determined that existing and readily available information did not support a finding that the States' coastal and estuarine waters failed to meet the States' applicable water quality standards.

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With respect to Washington, EPA concluded that the information submitted by CBD, both to Ecology and to EPA, did not provide sufficient ambient water quality data, nor could such data be reasonably extrapolated, to demonstrate that the State's water quality standards were not met for pollutants associated with OA or conditions attributable to OA. *See* Approval Letter, Encl. 2, EPA Review of Ecology's Analysis of Ocean Acidification Data and Information [WA-000011, 14]. With respect to Oregon, EPA similarly determined that the references provided by CBD did not identify sufficient evidence to demonstrate non-attainment of Oregon's water quality standards so as to warrant listing such waters as impaired due to pollutants associated with or conditions attributable to OA. *See* EPA Evaluation of Ocean Acidification Information [OR2-000286]. As demonstrated below, both of EPA's determinations are reasonable, explained in the decision documents, supported by the administrative records, and should be afforded judicial deference.

A. Washington Reasonably Decided Not to List Waters for Non-attainment of the Numeric pH Water Quality Criteria Based Upon Evaluation of Information Available at the Time it Submitted its List, and EPA Reasonably Approved the List Upon Evaluation of Information Available at the Time of Approval.[8]

Washington's water quality criteria for pH provide that pH levels should be within the range of 7.0-8.5, with an anthropogenic (human-caused) variation within that range of less than 0.2 units (for extraordinary marine quality waters) or less than 0.5 units (for excellent marine quality waters). All of the pH data in the record are within the acceptable range, and CBD does not contend otherwise. CBD relies entirely on a single study that documented a decrease in pH levels of greater than 0.2 units, but still within the acceptable range in the pH water quality criteria. J. Timothy Wootton, *et al, Dynamic Patterns and Ecological Impacts of Declining Ocean pH in a High-Resolution Multi-Year Dataset* (2008) [WA-000731] ("Wootton Study"). The Wootton Study evaluated samples collected from a single monitoring location over an eight-

[8] In its Motion for Summary Judgment, CBD does not challenge EPA's decision that the readily available data and information did not support a finding of nonattainment of Oregon's numeric water quality criteria for pH.

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year period in waters that are not subject to Washington's water quality standards.[9] On the basis of the Wootton Study, CBD argues that all of Washington's marine waters should be listed as impaired for pH. (CBD Br. at 19-21). Washington disagreed, and, as discussed below, EPA reasonably concurred with Washington.

1. Washington's Decision

CBD criticizes Washington's decision, asserting that "Washington declined to examine the pH data" (CBD Br. at 19). However, the record demonstrates otherwise. Washington reviewed all of the documents submitted by CBD, prepared a detailed response to CBD's specific assertions, and concluded that none of the referenced studies demonstrated non-attainment of the pH criteria:

> We reviewed each of the documents referenced by CBD as support for their assertions to see if they included pH data not meeting our water quality standards. None of the documents included data that showed any data outside of the accepted range, and in particular, no data demonstrated a decline in pH at any Washington marine water body of greater than 0.2 or 0.5 pH units (depending on the waterbody use designation) due to a human-caused variation within the accepted range. Therefore, a Category 5 listing of threatened or impaired for coastal waters was not triggered based on the pH numeric criteria.

Letter dated June 12, 2012 from Ecology to CBD [WA-000066, 67]. *See also* Washington's Response to Comments from CBD [WA-000417] (same). Washington prepared a table listing all of the references submitted by CBD to Washington (a total of 128) [WA-000072-86], specifically referencing the Wootton Study [WA-000086], and explained that "Ecology reviewed all of the references to determine if the studies provided relevant documentation of declines in pH not within the acceptable limits or documenting violations of the narrative standards for protecting existing and designated aquatic life uses." [WA-000071]. Washington reviewed all of the available data and information, and concluded that "[m]ost of the studies submitted by CBD did not provide sufficient or appropriate information to assess whether or not Washington waters

[9] The monitoring location was near Tatoosh Island, in the Strait of San Juan de Fuca, within the waters of the Makah Indian Tribe.

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were attaining the water quality standards." June 12, 2012 letter from Ecology to CBD at 4 [WA-000069].[10]

Ecology's Environmental Assessment Program staff, with expertise in marine science, prepared a separate and more detailed assessment of the references that it found to be potentially relevant, including the Wootton Study. *See* Ecology Assessment of Relevant CBD References ("Ecology Assessment") [WA-000087-94]. The team evaluated the Wootton Study and the associated data set "to determine if the pH and biology data collected as part of the study could be used as a basis for listing on Category 5 in the 2010 Marine Assessment." *Id*. at 7 [WA-000093]. Ecology staff communicated directly with the principal author of the Wootton Study in developing responses to the comments. *See* letter (undated) from Wootton to Ecology and EPA [WA-000824-26]. The Ecology Assessment explained why the Wootton Study did not support a finding that Washington's marine waters did not attain the pH water quality criteria:

> While the Wootton study may be valid for Tatoosh Island, a spatial extrapolation of long-term trends from the study area to a larger regional change would exhibit high uncertainty since the data are from only one sampling location. Also, the study does not provide conclusive evidence that the cause of the pH change is due to human sources. For instance, the change could be caused by natural sources related to inputs from river discharges, long-shore shelf transport and planktonic specifics composition (i.e., the pH changes could be related to changes in physical conditions due to the location and changes in the patterns of primary productivity and species composition).

Ecology Assessment at 7 [WA-000093]. Ecology thus concluded that "[f]urther follow-up studies would be needed before Ecology could support using the data for documenting human-caused variations in pH or aquatic life impairment for Washington's coastal water bodies leading to a Category 5 listing. This study does not provide any pH data showing impairments of Washington waters, nor does it provide conclusive evidence that Washington's coastal aquatic life in the natural environment are being impaired by ocean acidification." *Id*.

[10] Washington evaluated the data submitted by CBD and concluded that much of the data did not meet credible data requirements mandated by the Water Quality Data Act, RCW 90.48.570-90.48.590 and the Water Quality Program Policy 1-11 [WA-001361]. Washington described its credible data requirements and explained why certain data failed to meet the requirements in its June 12, 2012 letter to CBD at 4 [WA-00069].

Washington also concluded that the Wootton Study data could not be extrapolated to other waters in Washington, because all of the samples were collected at a single location, and that location was not representative of other marine waters. The sampling site was unique because it is where oceanic waters mix with estuarine water (including inland freshwater) from the Strait of Juan de Fuca. *Id.* Moreover, the waters at the monitoring site where the Wootton Study was conducted are not subject to Washington's water quality standards because it is located within the boundaries of the Makah Indian reservation and States do not have regulatory authority over Tribal lands, waters, or individual Tribal members. *Id.*[11]

Washington also considered a study by Feely, *et al*., *The Combined Effects of Ocean Acidification, Mixing, and Respiration On pH and Carbonate Saturation in an Urbanized Esturary* (2010) ("Feely Study") [WA-000731] that evaluated inorganic carbon measurements in Puget Sound. *See* Encl. 1 to 6/12/12 letter from Ecology to CBD at 6 [WA-000071, 76]. The Feely Study found that decreasing pH in the Puget Sound is largely the result of natural mixing, circulation, and biological processes, and that OA plays a smaller role. Feely concluded that since the Industrial Revolution "a reasonable estimate of the range of the present-day pH decrease in the Puget Sound region due to ocean acidification is between .05 and .15 pH units." Feely Study at 12 [WA-000731]. Thus, even if 100% of that decline in pH were due to anthropogenic

[11] While CBD notes that Washington has, in the past, included waters on tribal lands on its 303(d) list (CBD Br, at 21, n. 5), those listings have occurred in response to requests by the interested Tribe, and are listed with an express qualification that Washington State does not have jurisdiction over the waters. This is consistent with EPA Guidance. *See* Recommended Framework for EPA Approval Decisions on 2002 State Section 303(d) List Submissions at 10-11 [WA-001304-05]. CBD's assertion that the Makah Tribe wanted its waters listed (CBD Br. at 21) is not supported by the record, and its quote from the Makah letter is not complete. The complete quote is: "We believe that our ability to consult [government to government] would be enhanced by being able to cite Ocean Acidification (OA) *in our [Tribal Water Quality Standards] on the issue*." [WA-WA-002138] (emphasis is the portion of the quote omitted by CBD). The Makah Tribe was proposing a consultation to consider establishing a water quality standard of its own, rather than proposing that the State include tribal waters on its List. Moreover, the record demonstrates that EPA responded to the Makah Tribe by offering to arrange such consultation, but the Tribe did not pursue consultation. [WA-000181 (Supp. AR)]. *See also* letter from the Makah *declining* listing of the Strait of Juan de Fuca on the State's 2010 List for reasons other than OA [WA-000208]. If the Tribe sought listing of the Strait of Juan de Fuca due to pollutants associated with or conditions attributable to OA, then the Tribe would have so indicated in that letter.

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causes, the change would still be less than the 0.2 pH unit variation that would indicate non-attainment of the criteria.

Based on its evaluation of this available pH data, including all of the information and data referenced by CBD, Washington reasonably concluded that none of the studies demonstrated non-attainment of the pH standard for any Washington marine waters: "None of the documents included data that showed any data outside of the accepted range [7.0-8.5], and in particular, no data demonstrated a decline in pH at any Washington marine water body of greater than 0.2 or 0.5 pH units (depending on the waterbody use designation) due to a human-caused variation within the accepted range." Letter dated June 12, 2010 from Ecology to CBD at 2 [WA-000067]. *See also* Washington's specific comments on Feely Study, Enclosure 2 to the June 12 letter [WA-000087, 89-90].

2. EPA Review

EPA reviewed Washington's submittal package, including all of the information submitted by CBD to Washington, and reached the same conclusion: The data did not support a finding of non-attainment of the numeric water quality criteria for pH:

> The EPA has also conducted a detailed review of Ecology's justification for not placing Puget Sound or other Washington waters, including Willapa Bay, Gray's Harbor, The Strait of Juan de Fuca, and the Pacific Coast, on the 2010 303(d) list for impairments associated with water quality standards that could be related to ocean acidification, including marine pH and narrative criteria under aquatic life designated uses, or antidegradation. Based on this review, the EPA has concluded that Ecology has adequately addressed all statutory and regulatory requirements for excluding these waters from Category 5 of the Integrated Report.

Approval Letter at 1 [WA-000001].[12] EPA's further analysis confirmed that, "for a variety of reasons, including the unique sampling location in the [Wootton] study, information from those

[12] EPA conducted an independent review of Ecology's Analysis of Ocean Acidification Data and Information [WA-000011-20]. Appendix A addresses EPA's Review of Ocean Acidification References [WA-000021-65], including a table identifying all Ocean Acidification References Reviewed by the EPA (Table 1) [WA-000021-50], as well as a separate table providing an assessment of CBD references that were flagged as having potentially usable data or information to assess to Washington's water quality standards (Table 2) [WA-000051-65].

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documents was insufficient to determine the attainment status of Washington's marine pH criteria." Approval Letter, Encl. 2 (EPA Review of Ecology's Analysis of Ocean Acidification Data and Information) at 5 [WA-000015].

In addition to the review and evaluation conducted by Washington, EPA independently evaluated the Wootton Study and associated data set. *See* Factors Influencing Trends in pH in the Wootton, *et al*. (2008) Dataset, by Cheryl Brown of EPA's Pacific Coastal Ecology Branch, Western Ecology Division, Office of Research and Development (2012) ("Brown") [WA-001338-60]. Dr. Brown concluded that there are other drivers (particularly river flow) that influence pH in the region that were not considered in the Wootton Study.[13] Because it was not possible to determine from the data whether the decline in pH observed in the Wootton Study was due to natural or anthropogenic causes, EPA reasonably determined that the Wootton Study's conclusion that the decline in pH was strictly related to anthropogenic atmospheric CO_2 was not supported. Brown at 22 [WA-001359].[14]

Dr. Brown also agreed with Washington that the sampling location on Tatoosh Island was unique.[15] Dr. Brown compared the Tatoosh Island data with data collected at Yaquina Estuary in Oregon. If the decline in pH observed in the Wootton dataset was representative of other marine waters, one would expect similar results at other locations in the Pacific Northwest, such as the Yaquina Estuary. Yet comparison of the data showed no such correlation. Brown at 15-16 [WA-001352-52]. Because the sampling location was not representative of Washington marine waters,

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[13] CBD incorrectly interpreted the Brown analysis as concluding that pH changes resulting from the river flow were caused by climate change (i.e., human-caused increase in CO_2). CBD Br. at 20. In fact, the Brown analysis concluded that it was not possible to discern from the data whether the alterations resulted from climate change. Brown at 22 [WA-001338].

[14] Brown's conclusions are consistent with the Feely Study, finding that the decline in pH at Tatoosh Island may be related to local conditions and "is probably explained by a combination of factors, including enhanced upwelling of waters off the Washington coast resulting from changes in regional ocean circulation as well as smaller contribution from ocean acidification. Feely Study at 18 [WA-000731].

[15] Brown explained that the sampling site is unique because "The oceanography in this region is influenced by numerous physical factors including complex bathymetry upwelling (both wind driven and tidal) and the presence of large-scale eddies and multiple river plumes. This region is subjected to strong tidal estuarine and wind-driven flows." Brown at 2 [WA-001338].

EPA agreed with Ecology's conclusion that it would be inappropriate to extrapolate the biology data collected near Tatoosh Island, from the Makah waters, to waters of the State." *See also* Approval Letter, Encl. 2 (EPA's Review of Ecology's Analysis of Ocean Acidification Data and Information) at 6 [WA-000016]. *See also id*. at 5 [WA-000015] (describing a host of variables that make the extrapolation of data across large geographic range, for the purposes of determining non-attainment of water quality standards, difficult and inappropriate).[16]

In sum, the data in the record do not support a finding of non-attainment of the water quality criteria for pH in the marine waters of Washington. Washington's conclusion was reasonable, and EPA's review and concurrence with that decision was also reasonable.

B. EPA Reasonably Determined that the Information Available at the Time of EPA's Decisions Did Not Demonstrate that Either Washington's or Oregon's Coastal and Estuarine Waters Failed To Meet Applicable Narrative Water Quality Criteria for Protection of Aquatic Life.

EPA reasonably concluded that the existing and readily available information did not support a finding that coastal and estuarine waters in Washington or Oregon were impaired based on the States' respective narrative standards for protection of aquatic life due to conditions related to ocean acidification. *See* Approval Letter at 1 [WA-000001]; EPA Evaluation of Ocean Acidification Information [OR2-000290].

Washington concluded that the available data and information did not provide sufficient evidence that aquatic uses in the natural environment were being threatened or impaired by environmental alterations related to ocean acidification. June 12, 2012 letter at 3 [WA-000068]. Washington provided a detailed summary of the information it considered, and an assessment of its conclusions. *See* Ecology Assessment of Relevant CBD References [WA-000087-94]. EPA agreed with Washington's analysis, concluding that: "No data or information was presented

[16] CBD has selectively quoted a provision from the EPA 2010 OA Guidance indicating that EPA supports a "presumption that the pollutant source (particularly when from atmospheric deposition, such as mercury) is uniformly affecting segments in large geographic areas." (CBD Br. at 21). However, the next sentence qualifies EPA's the statement, indicating that "EPA supports the use of these methods for making attainment decisions related to OA *where appropriate*" (emphasis added). Because of the significant data and information gaps concerning OA in coastal waters, and because a variety of factors may influence pH levels in coastal and estuarine waters, EPA reasonably concluded that it would not be appropriate to extrapolate inconclusive data over large geographic areas.

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demonstrating impaired health of wild, natural populations in Washington waters, therefore an impairment determination for the aquatic life designated uses cannot be made at this time." EPA Review of Ecology's Analysis of Ocean Acidification Data and Information at 7 [WA-000017]; and EPA reached similar conclusions with respect to attainment of Oregon's narrative criteria. *See* EPA Evaluation of Ocean Acidification Information [OR2-000289].[17]

EPA provided a detailed and rational explanation of why it determined that the available information was insufficient for the purpose of determining non-attainment of applicable water quality standards. There were no *in situ* field studies documenting adverse effects on the health of aquatic life populations in either State. Nor was there any other information documenting effects on indigenous populations of aquatic life in State waters indicating stressors attributable to ocean acidification. The only information available regarding aquatic life in ambient waters under natural conditions was inconclusive.[18] CBD relies only upon anecdotal observations, laboratory experiments, and data collected at artificial habitats, specifically, on-shore oyster seed hatcheries. As demonstrated below, EPA's determination that existing information was insufficient to support a decision to list the waters as impaired was reasonable.

1. <u>EPA Reasonably Determined That Anecdotal Information Was Insufficient to Support Listing Decisions in Either State</u>.

CBD relies on statements found in articles and conference reports, without reference to any data supporting the assertions. For example, CBD begins its hyperbolic argument with reference to an article in the *New Yorker* discussing the pteropod – which makes no mention of

[17] CBD challenges EPA's statement that "[n]o data or information was presented demonstrating impaired health of wild, natural populations in Oregon waters," arguing that EPA's qualification "wild, natural" is in error as a matter of law (CBD Br. at 17), but does not object to EPA's similar conclusion with regard to Washington's waters. The quoted statement was made in EPA's Evaluation of Ocean Acidification Information [OR2-000289] and was in response to specific articles discussing laboratory studies. As explained below, EPA reasonably found that neither the laboratory data, nor the hatchery data, were sufficient to support a finding of impairment of aquatic life narrative standard absent any data indicating effects on the wild, natural populations in the State's coastal and estuarine waters.

[18] CBD's statement that "EPA acknowledges that evidence shows ocean acidification has killed billions of oyster larvae in the Pacific Northwest" is a gross overstatement. EPA acknowledged that there was some information that acidified/low carbonate water was affecting oyster larvae in on-shore hatcheries (e.g., the Barton Study), but that information was insufficient to determine non-attainment of applicable water quality standards. There is no information in the record to support the claims for non-hatchery shellfish.

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any pteropods in the coastal waters of Washington and Oregon, and the referenced study (Kolbert (2006)) [OR2-003021] does not refer to the waters of the relevant States. (CBD Br. at 2).

While CBD asserts that the oyster population in Willapa Bay has "crashed," (CBD Br. at 14), it did not present either State, EPA or the Court any actual oyster population or harvesting data from Willapa Bay to support its assertion.[19] CBD relies on the Southern California Coastal Water Research Project (2010) ("SCCWRP"), but that report does not purport to explain the degree of, or reasons for, the decline in wild oyster populations in Willapa Bay. On the contrary, the SCCWRP report recognized that "[s]ets of wild oysters have been recorded in Willapa Bay since 1942 and there have been other periods of 4 to 6 years where sets of wild oysters have been poor. It is unknown if the present declines in wild set will end, as other periods have, or if the declines will continue." SCCWRP at B-5 [WA-000731]. EPA reasonably determined that such inconclusive and anecdotal statements did not provide sufficient basis to list Willapa Bay as impaired due to non-attainment of the narrative water quality criteria attributable to ocean acidification conditions.[20]

2. <u>EPA Reasonably Determined that Laboratory-Based Studies Were Not Sufficient to Support Listing Decisions in Either State</u>.

CBD relies upon several laboratory studies that correlate ocean acidification conditions with adverse impacts to shellfish. (CBD Br. at 15, citing Crim (2011) at 272 [WA-000731], Hettinger (2012) at 30 [WA-000731], Gaylord (2011) at 2586 [WA-000731]). EPA determined that it would not be appropriate to rely solely on the findings in such studies as a basis for determining non-attainment of the narrative water quality criteria in natural waterbodies, because

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[19] Moreover, CBD's assertion that the oyster population in Willapa Bay has "crashed" is difficult to reconcile with its assertion that the oysters [in a hatchery] are raised from broodstock "from sustaining native populations in Willapa Bay, WA." CBD Br. at 17.

[20] CBD also argues that even if the cause for the decline in shellfish in Washington waters is not known (i.e., that the decline cannot be attributed to OA), the water must still be listed based on actual impairment even though the impairment cannot be attributed to a pollutant. CBD Br. at 15, citing EPA Guidance [WA-001231]. The cited EPA Guidance is not applicable here, because there has been no finding or demonstration of impairment. The Guidance relates to circumstances where there is a finding of impairment, but an unknown cause.

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the data and information did not sufficiently account for the potential adaption and acclimation of wild and/or indigenous populations. *See* EPA Review of Ecology's Analysis of Ocean Acidification Data and Information at 7 [WA-000017]; EPA Evaluation of Ocean Acidification Information [OR2-000289]. EPA reviewed articles documenting that laboratory experiments suffered from a reduced ecological complexity (Honisch, *et al*. 2012) [WA-000731]. Some of the experiments used parameters that were tightly controlled and manipulated and thus did not reflect the conditions in the natural environment. EPA explained that "these variables make the extrapolation of data/information from the laboratory and hatchery studies submitted by CBD, for the purposes of determining non-attainment of water quality standards, difficult and inappropriate in these circumstances. More information is needed on the biological condition within the waterbody (e.g., *in situ* field studies documenting the health of aquatic life populations) or laboratory studies that are designed to account for natural variability and ecological complexity within a particular system." EPA Response to Comments on EPA's Additions to Oregon's 2010 303(d) List at 22 [OR2-000275]. Thus, EPA reasonably concluded that data and information were not sufficient to make a determination of non-attainment of the States' narrative criteria.

3. EPA Reasonably Determined That Shellfish Hatchery Information Was Not Sufficient to Support Listing Decisions in Oregon.[21]

EPA determined that it would not be appropriate to make listing decisions based on observations from on-shore oyster seed hatcheries because they are artificial habitats and are not representative of natural conditions in ambient waters. EPA explained that the artificial nature of the monoculture found in an on-shore shellfish hatchery did not accommodate the adaptation and acclimatization that would be found in ambient waters. *See* EPA's Decision Document, "Final Additions to Oregon's 2010 303(d) List, December 14, 2012, Encl. 3 (Response to Comments), Attach. 3 (EPA Evaluation of Ocean Acidification Information) [OR2-000286, 000288]. In

[21] CBD raised this issue only with respect to EPA's decision on listing waters in Oregon. CBD does not argue that the hatchery data provide a basis for challenging EPA's approval of the Washington List, even though EPA found the hatchery data insufficient for listing of waters in Washington for the same reasons it found the data insufficient for listing waters in Oregon.

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particular, EPA cited the SCCWRP conference proceedings that concluded that there was a need for improved linkages between biological and oceanographic data, and recognized that "hatchery operators operate with tendencies that may obscure the relationship between water chemistry and recruitment" and concluded that "[u]ltimately, analysis of ocean chemistry resulted in discovery of a correlation between upwelling of lower pH water and larval mortalities in the hatcheries. However, it is unclear what is actually driving these decreases both in the hatcheries as well as in the wild." *Id*.

EPA also addressed the Barton, *et al.* (2012) study of hatcheries [OR2-001521-533] ("Barton Study") upon which CBD relies, and explained why it did not find the information sufficient to support a listing decision. *See* EPA's Decision Document, "Final Additions to Oregon's 2010 303(d) List, December 14, 2012, Encl. 3 (Response to Comments), Attach. 3 (EPA Evaluation of Ocean Acidification Information) [OR2-000286, 000289]. The Barton Study included no data regarding the health of wild aquatic organisms, and the only pH data presented in the Barton Study indicated a pH in Netarts Bay between 7.6 and 8.2, both within the acceptable range of 7.0-8.5 for marine waters and 6.5-8.5 for estuarine waters. *Id.* Measurements of pH within the acceptable range confounded conclusions that ocean acidification would be the cause for the observed hatchery losses. The Barton Study also found variability of shellfish larvae responses within the hatchery ("within cohort variability"), and observed that some shellfish larvae grew without incident, casting further doubt on the conclusion.

CBD argues that EPA should consider information about the observed effects and other knowledge and data in areas with limited site-specific monitoring because EPA's 2010 Memorandum on OA supports the use of such information and data to make impairment decisions "when extrapolation of such information to a wider geographic area is appropriate." EPA Evaluation of Ocean Acidification Information, citing (EPA 2010) [OR2-000286, 000287]. (CBD Br. at 18). EPA's evaluation of the articles submitted by CBD, however, revealed that the papers' authors made reference to "data gaps preventing definitive conclusions to be drawn about the degree to which ocean acidification impacts can be extrapolated to other locations." *Id.* For example, the Barton Study identified gaps that rendered extrapolation difficult and inappropriate:

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> [T]wo significant shortcomings exist with regard to understanding acidification effects on natural populations of organisms in variable coastal and estuarine habitats: prediction of how carbonate conditions will vary in coastal and estuarine environments with increasing atmospheric CO_2 and a better understanding of the fundamental biology underlying the responses of multicellular organisms to acidification.

EPA Evaluation of Ocean Acidification Information (quoting Barton Study) [OR2-000289]. The Barton Study went on to explain that "limited experience suggests that the multitude of forcing time scales still requires high-resolution monitoring of water CO_2 chemistry before we are fully capable of developing predictive models." *Id.*

Moreover, EPA explained that studies reveal that physical and seasonal variables make the extrapolation of data across a large geographic range for purposes of determining non-attainment of water quality standards in local water bodies difficult and inappropriate. *Id.* [OR2-000286]. EPA relied on a variety of studies documenting these variables.[22] Based on the record, it was reasonable for EPA to determine that it was not appropriate to list marine and estuarine waters in Oregon.

C. EPA Reasonably Determined that Listing Was Not Required Based on Aragonite Undersaturation.

EPA agrees with CBD's assertion that an increase of carbon dioxide in seawater reduces aragonite saturation. Aragonite is used by aquatic life to build shells and skeletons, and reduced saturation of aragonite can weaken or preclude formation of shells and skeletons. (CBD Br. at 22). However, neither Washington nor Oregon has adopted a numeric water quality criterion for assessing aragonite saturation, nor has EPA published recommended water quality criteria for aragonite saturation state. Therefore, failure to attain a numeric aragonite saturation criterion based on alleged undersaturation of aragonite would not provide a basis for listing waters as

[22] *See, e.g.*, Juranek, *et al*. (2009) describing the distinct seasonal cycle offshore from in Newport, Oregon relating to upwelling dynamics; Langston (May 26, 2011) describing natural processes and pollution may contribute to low pH values in Hood Canal, Washington. EPA noted that Netarts Bay, Oregon is a lagoon-type estuary dominated by ocean inputs, while water exchange between the ocean and the four basins of Puget Sound is limited by bottom morphology at Admiralty Inlet, relying on Barton, *et al*. (2012) and Feely, *et al*. (2010). [OR2-001317-4494].

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impaired.[23] CBD argues, however, that EPA failed to consider information concerning aragonite undersaturation to evaluate whether it caused non-attainment of either State's narrative water quality criteria for protection of aquatic life. (CBD Br. at 23).

EPA did consider all of the studies submitted by CBD and explained why it found the information insufficient to support a listing decision. *See* CBD Cited References on Ocean Acidification [WA-00071-86]; EPA's Review of References Submitted by CBD [OR2-000292-329]; Index of Ocean Acidification Articles Reviewed by EPA [OR2-001299-1316].[24] Moreover, CBD expressly referenced EPA's conclusions regarding those studies. (CBD Br. at 24). Thus, while CBD may disagree with EPA's conclusions, the record does not support its argument that EPA ignored the information. As explained above, EPA reasonably concluded that the readily available data and information considered by EPA was insufficient to support a listing of coastal and estuarine waters for nonattainment of the States' narrative water quality criteria; and, as discussed below, that decision is entitled to deference.

D. <u>The Court Should Afford Judicial Deference to EPA's Decisions</u>.

As discussed above (*see* Standard of Review, supra at 9-10), EPA's decisions based on scientific and technical information within its area of expertise are entitled to heightened deference. Notwithstanding that fundamental premise of administrative law, CBD encourages the Court to reject EPA's evaluation of the information before it, relying on a series of cases that provide no support.

CBD misleadingly relies on *Sierra Club v. EPA*, 346 F.3d 955, 963 (9th Cir. 2003), in which the Ninth Circuit vacated an EPA decision because the Agency's decision was based upon assumptions of fact that were shown to be invalid. In this case, EPA did not rely on any invalid

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[23] The appropriate remedy would be to petition the State to establish a water quality criterion for aragonite. In fact, CBD has petitioned EPA to recommend water quality criteria under CWA section 304(a) to address aragonite saturation state and calcification rates. http://www.biologicaldiversity.org/campaigns/ocean_acidification/pdfs/EPA_OA_petition_2013.pdf (April 17, 2013).

[24] EPA determined that some of the studies [OR2-002882, OR2-000310] contained no data suitable for analysis under Oregon water quality standards; and found that some studies [WA-00060, WA-000056-57, WA-000731] provided no evidence of non-attainment regarding Washington water quality standards in Puget Sound and along the State's west coast.

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assumptions of fact; it determined that the information available to EPA was inconclusive or insufficient to support listing the waters as impaired. Moreover, *Sierra Club* case did not involve the Agency's evaluation of technical and scientific information within its expertise, and for which it is entitled to the greatest deference.

The records of decision in this case also differ from the matter considered in *Mont. Wilderness Ass'n v. McAllister*, 666 F.3d 549, 561 (9th Cir. 2011), in which the Forest Service failed to consider an important element of the applicable statute (the "1977 Study Act") based on its erroneous understanding of its legal obligations under the 1977 Study Act. Here, EPA did not misapprehend its legal obligations, but clearly understood the applicable decisional threshold - attainment of numeric and narrative water quality standards. EPA considered all existing and readily available data and information before it and applied its technical expertise and concluded that the readily available data and information was insufficient to support a finding of non-attainment of the applicable standards.

CBD's reliance on *Fla Pub. Interest Research Grp. Citizen Lobby Inc. v. EPA*, 386 F.3d 1070 (11th Cir. 2004) is similarly inapposite. The challenge there was not to EPA's review of a state's Section 303(d) List; rather, the plaintiff contended that Florida's adoption of a rule establishing a methodology for listing waters as impaired amounted to a *de facto* amendment of Florida's water quality standards. Here, there is no suggestion that the States' water quality standards are invalid or inconsistent with the CWA; nor is there any allegation that either State or EPA has amended the water quality standards through application of listing methodologies.

In sum, CBD is relying on inapplicable authorities. The Ninth Circuit case law is clear that EPA's approval of Washington's 2010 303(d) List, and EPA's decision-making in its additions to Oregon's 2010 303(d) List, are entitled to deference, and the Court should uphold them.

II. EPA Considered All Existing and Readily Available Information in Approving the Washington 303(d) List and in its Additions to the Oregon 303(d) List.

CBD submitted six letters to Washington and 128 references; CBD submitted six letters to Oregon and over 125 references. EPA reviewed all of the information submitted to the States, as well as 14 letters and 175 references submitted by CBD to EPA, and information otherwise identified independently by EPA.[25] If there was any additional, readily available, information to support listing of waters in Washington or Oregon as impaired due to conditions related to OA, CBD would certainly have provided the information to EPA.

CBD argues that EPA erred in failing to add additional waters to Oregon's list because it did not consider all existing and readily available data and information. CBD identifies two sources of information by the National Oceanic and Atmospheric Administration ("NOAA") that CBD claims EPA should have considered, but did not: (1) NOAA's National Estuarine Research Reserve System and National Data Center and (2) NOAA's Pacific Marine Environmental Laboratory and Integrated Ocean Observing System.[26] CBD does not suggest, much less identify any relevant information, in either of the two referenced sources that would have led to a different decision. *See Sierra Club v. Hankinson,* 939 F. Supp. 865, 870 (N.D. Ga. 1996) (cited in CBD Br. at 25), rejecting an argument that the State failed to consider "all existing readily available water quality-related data and information" in preparing its 303(d) list because there was no evidence in the record indicating that the State's failure to use the identified information resulted in the exclusion of waters that should have been listed.

CBD also argues that Washington failed to consider all existing and readily available information in developing its 2010 303(d) List. CBD asserts that Washington should have consulted data available from EPA's Storage and Retrieval warehouse ("STORET"), United States Geological Survey ("USGS") water data repository and the Laboratory Analytical and

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[25] *See* WA-000710, -734, -739, -744, -751, -763, -771, -800, -831, -832, -840, -850, -888, -895, -916, -936, -956, -959, -969, -977, -980, -992, -001005, OR2-004495-OR2-004805.

[26] While EPA recommends that States consider these sources in its 2010 OA Memorandum at 7 [WA-001122], the recommendations are not binding requirements, *id*. at 5 [WA-001118], and the States and EPA have discretion in determining the data and information upon which to rely.

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Strorage Retrieval ("LASAR") databases, arguing that those sources were existing and readily available because they were consulted by EPA for its additions to the Oregon List. The record developed by Washington, however, demonstrates that the State did consult both the STORET and USGS databases.[27] The Washington database contains records for which the source is identified as STORET or USGS, and some of the records in the Washington submission to EPA derive from those sources. [WA-000097]. It is thus apparent that Washington consulted both of those sources for relevant information as part of its listing methodology. In fact, CBD recognizes that Washington consulted the STORET and USGS databases for pH data and relied upon that information for listing the Soleduck River. (CBD Br. at 27, n. 8).

CBD further asserts that Washington should have considered data collected in Puget Sound by NOAA and should have pursued data cited by Dr. Feely of NOAA. (CBD Br. at 29). Again, the record reflects that Washington did consider those data, but concluded that the data were not appropriate to support listing decisions. Washington acted consistent with EPA regulations: "While States are required to evaluate all existing and readily available water quality-related data and information, a State may decide to rely or not rely on particular data or information in determining whether to list particular waters." [WA-000003]. *See also Sierra Club v Leavitt*, 488 F.3d 904, 913 (11th Cir. 2007) (regulations require state to evaluate all data, but state has right to decide not to use certain data). Washington explained its credible data policy and asserted that all readily available data meeting the requirements of its policy were analyzed. Washington also considered documents from Dr. Feely, which validated its decision not to use some existing datasets collected from Puget Sound for attainment decision-making because the pH probes used to collect the Puget Sound data were subject to a high rate of error. *See* June 12, 2012 Letter from Washington to CBD [WA-000066, 69]. Therefore, the record

[27] CBD also suggests that Washington should have considered the LASAR database that was reviewed by EPA for the Oregon list. LASAR is an Oregon Department of Environmental Quality database, so it only contains data considered relevant to Oregon waters, thus there would be no reason for Washington to consider that database.

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demonstrates that Washington appropriately considered and evaluated all existing readily available data and information.[28]

More importantly, the issue in this case is not the validity of Washington's decision, but rather, EPA's decision approving Washington's 2010 Section 303(d) List. EPA necessarily has a limited role when acting in its oversight capacity to review and approve or disapprove State Section 303(d) Lists, as the law provides EPA 30 days to approve or disapprove a State's List. 40 C.F.R. § 130.7(d)(2). The nature of EPA review of a Section 303(d) List was addressed in *Barnum Timber Co. v. EPA*, 835 F. Supp. 2d 773, 779 (N.D. Cal. 2011), explaining that Congress assigned primary responsibility for identifying impaired waters to the States and provided EPA an oversight role, and recognizing that the short period for EPA to review the States' Lists confirms that its role is limited. The 10th Circuit reached the same result in *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996) ("the time restriction for the EPA's review of state . . . water quality standards supports our conclusion that Congress intended the EPA to have a very limited role.") *See also Natural Res. Def. Council, Inc. v. EPA*, 16 F.3d 1395, 1399 (4th Cir. 1993). Although the Ninth Circuit has not defined the scope of EPA's oversight role in reviewing State Section 303(d) lists, it has recognized the primacy of the States in combating pollution in State waters. *City of Arcadia*, 411 F.3d at 1106.

Notwithstanding EPA's limited role, EPA did conduct a detailed review of Washington's justification for not listing waters as impaired based on water quality standards that could be associated with OA. *See* EPA Decision Document [WA-000001] and EPA Review of Ecology's

[28] While States must consider all existing and readily available water quality-related data and information, there is no requirement that a State forward to EPA all of the information it considered. The State needs only to include in its submission (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; (3) any other reasonable information requested by the Region and (4) rationale for decision not to use data. 40 C.F.R. § 130.7(b)(6). In this case, EPA emphasized the importance of the Washington's consideration of all existing and readily available data and information for coastal and estuarine waters, including pH, in developing the 2010 List per 40 C.F.R. § 130.7." *See* 6/8/12 letter from Bussell to Susewind [WA-000153]. In a letter dated Jan 12, 2012 from Bussell to Susewind, EPA specifically asked Washington to include "[a]ny memos to the file, etc. documenting decisions surrounding comments submitted by the Center for Biological Diversity" [WA-000198]. Ecology provided a full response, identifying all resources it considered and relied upon. [WA-000153-56]. *See also* letter dated 6/12/12 from Ecology to CBD, explaining why certain information provided to Washington by CBD was not relied upon. [WA-000066-70].

Analysis of Ocean Acidification Data and Information [WA-000011-65]. EPA agreed with Washington's conclusion that the information available did not support listing of Washington waters as impaired for conditions related to OA.

III. CBD is Not Entitled to the Remedy It Seeks.

Should the Court determine that either of EPA's decisions was arbitrary and capricious, the appropriate remedy authorized by the APA is to remand the decision to EPA to take appropriate action. 5 U.S.C. § 706(2)(A). *See, e.g., UOP v. United States*, 99 F.3d 344, 350-51 (9th Cir. 1996); *Asarco, Inc. v. EPA*, 616 F.2d 1153, 1160 (9th Cir. 1980) ("If the court determines that the agency's course of inquiry was insufficient or inadequate, it should remand the matter to the agency for further consideration and not compensate for the agency's dereliction by undertaking its own inquiry into the merits." CBD acknowledges that vacatur of the decision during the remand proceedings would not be appropriate (CBD Br. at 29-30). However, CBD inappropriately – and unrealistically - requests that the court "direct EPA to disapprove Oregon and Washington's impaired waters lists and identify waters impaired by ocean acidification with 30 days of the disapproval." (CBD Br. at 30).

The Supreme Court has long held that if a reviewing court disapproves of an agency's action, it ought not to order the agency to take specific action on remand. *See NLRB v. Food Store Emps. Union, Local 347*, 417 U.S. 1, 10 (1974) ("when a reviewing court concludes that an agency invested with broad discretion . . . has apparently abused that discretion . . . remand to the agency for reconsideration, and not enlargement of the agency order, is ordinarily the reviewing court's proper course"); *Fed. Power Comm'n v. Idaho Power Co.*, 344 U.S. 17, 20 (1952) ("[T]he guiding principle [of APA review] is that the function of the reviewing court ends when an error of law is laid bare. At that point the matter once more goes to the [agency] for reconsideration"). On remand, it is therefore the agency's responsibility, not the Court's, to evaluate alternative courses of action and ultimately make a choice. *Kleppe v Sierra Club, 427 U.S.* 390, 410 n. 21 (1976). *See also, IRS v. Fed. Labor Relations Auth.*, 494 U.S. 922, 933 (1990) (An agency's task on remand remains "infused with judgment and discretion, requiring the 'accommodation of conflicting policies that were committed to the agency's care.'") (citation omitted).

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The preservation of agency discretion in the environmental sphere is particularly important given the complex scientific and technical knowledge required to implement environmental statutes. As the Ninth Circuit has stated, judicial "intervention into the process of environmental regulation, a process of great complexity, should be accomplished with as little intrusiveness as feasible." *Western Oil & Gas Ass'n v. U.S. EPA*, 633 F.2d 803, 813 (9th Cir. 1980).

In sum, if either decision is found to be arbitrary and capricious, the only appropriate remedy is remand to the agency. On remand, EPA would have the discretion to approve or disapprove the States' 2010 Lists consistent with the CWA and EPA regulations and any Order of this Court. CBD is not entitled to an Order compelling disapproval of the Lists; and particularly is not entitled to an Order compelling EPA to identify any particular waters as impaired by ocean acidification.

CONCLUSION

EPA's actions on Washington's and Oregon's 2010 Section 303(d) Lists of impaired waters were lawful, reasonable, and well supported by the administrative records. CBD's motion for summary judgment should be denied; EPA's cross-motion for summary judgment should be granted.

Dated: August 15, 2014

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 15th day of August, 2014, I filed the foregoing United States' Memorandum in Opposition to Plaintiff's Motion for Summary Judgment and in Support of Cross-Motion for Summary Judgment with the Clerk of Court using the CM/ECF system which will cause a copy to be served upon counsel of record.

/s/

Cynthia J. Morris